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GORDON RESEARCH CONFERENCE ON ION CHENNELS IN MUSCLE  
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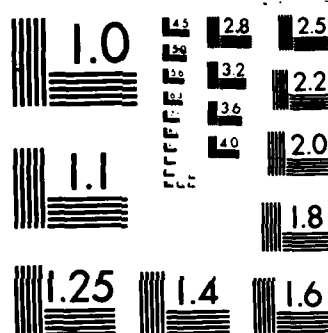
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The view, opinions and/or findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy, or decision, unless so designated by other documentation.

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19. ABSTRACT (Continue on reverse if necessary and identify by block number)

Approximately 25% of the participants were from abroad, and the affiliations of the participants represented a good mix from Academia and Industry. A particular effort was made to include women and young scientists among the participants; there were 19 graduate students, 44 postdoctoral fellows, and 31 women among the attendees.

It was clear from the caliber and intensity of the discussions that many new ideas and concepts came out of the conference. The rapidly emerging area of ion channel modulation received a major boost from this conference.

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1986 Gordon Research Conference on  
Ion Channels in Muscle and Other Excitable Membranes

Final Progress Report

Department of the Army Grant No. DAAL03-86-G-0121

The Gordon Research Conference on Ion Channels in Muscle and Other Excitable Membranes was held from August 4 - 8, 1986 at the New Hampton School, New Hampton, New Hampshire. The conference had 150 participants, the maximum which the Gordon Conference facilities would permit, but there were more than 220 applications from all over the world. Approximately 25% of the participants were from abroad, and the affiliations of the participants represented a good mix from Academia and Industry. A particular effort was made to include women and young scientists among the participants; there were 19 graduate students, 44 postdoctoral fellows, and 31 women among the attendees.

The program represented a departure from previous Gordon Conferences in this series, in that the sessions were not divided on the basis of particular channel types, but rather on the basis of themes common to all ion channels. This represented an effort to define mechanisms of channel regulation which are relevant to all ion channels, and it was highly successful. Virtually all of the speakers adhered to the chairman's guidelines in presenting new data rather than previously published work, and it was clear from the caliber and intensity of the discussions that many new ideas and concepts came out of the conference. The rapidly emerging area of ion channel modulation received a major boost from this conference, and there is no question that it will continue to be an important theme in future conferences in this series.

More than 40 of the participants indicated a desire to present posters at the conference, necessitating the organization of 4 poster sessions rather than the single one which had been anticipated. The posters were extremely well attended, and discussions around them were lively throughout. Participants' comments in response to the Gordon Conference questionnaire were uniformly positive, and there is no question that the conference was highly successful.

A copy of the program and registration list are appended.

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GORDON RESEARCH CONFERENCE

Ion Channels in Muscle and Other Excitable Membranes

New Hampton School (New Hampton)

Irwin B. Levitan -- Chairman  
Richard Horn -- Vice Chairman

August 4-8, 1986

Monday, August 4, 1986

Morning Conduction and Gating Mechanisms in Ion Channels

R. Horn -- Discussion Leader

9:00 AM	J. Patlak	Sodium channel gating
9:40 AM	O. Andersen	Conduction through sodium channels
10:20 AM	Coffee	
10:40 AM	P. Hess	Conduction through calcium channels
11:20 AM	F. Sigworth	Open channel noise
12:00 Noon	Conference Photograph	

Evening Channel Development, Distribution and Domains

R. Zucker -- Discussion Leader

7:30 PM	W. Almers	Mobility and distribution of voltage-dependent ion channels in muscle
8:10 PM	R. Weiss	Sodium channels in developing muscle
8:50 PM	Break	
9:00 PM	J. Chad	Domains around calcium channels
9:40 PM	R. Zucker	Synaptic implications of calcium domains

Tuesday, August 5, 1986

Morning Channel Modulation, I

L. Kaczmarek -- Discussion Leader

- |          |              |  |
|----------|--------------|--|
| 9:00 AM  | O. Krishtal  | Excitatory amino acid receptors in CNS: concentration clamp approach.          |
| 9:35 AM  | R. Huganir   | Regulation of the nicotinic acetylcholine receptor by protein phosphorylation. |
| 10:10 AM | F. Bezanilla | Modulation of squid axon potassium current.                                    |
| 10:45 AM | Coffee       |  |
| 11:00 AM | R. Tsien     | Modulation of cardiac and neuronal calcium channels.                           |
| 11:35 AM | J. Strong    | Regulation of neuronal calcium channels by protein kinases.                    |

Evening Genetic Approaches to Channel Regulation

W. Catterall -- Discussion Leader

- |         |            |  |
|---------|------------|--|
| 7:30 PM | R. Aldrich | Potassium channel mutants in Drosophila. |
| 8:10 PM | C. Kung    | Ion channels in lower organisms.         |
| 8:50 PM | Break      |  |

Cell-to-Cell Channels

R. Horn -- Discussion Leader

- |         |                |  |
|---------|----------------|--|
| 9:00 PM | J. Hall        | Reconstitution of lens-junction channels.                        |
| 9:40 PM | W. Loewenstein | Regulation of cell-to-cell channels by cellular phosphorylation. |

Wednesday, August 6, 1986

Morning Channels and Secretion

D. Cook -- Discussion Leader

9:00 AM	D. Cook	Potassium channels in pancreas
9:40 AM	J. Lemos	Channels in neurosecretory terminals
10:20 AM	Coffee	
10:40 AM	E. Neher	Mast cell degranulation
11:20 AM	O. Petersen	Messenger-mediated control of K <sup>+</sup> channels in gland cells

Evening Molecular Biology of Ion Channels

C. Kung -- Discussion Leader

7:30 PM	H. Lester	Receptors and ion channels expressed in oocytes
8:10 PM	W. Catterall	Molecular analysis of sodium channel function
8:50 PM	Break	
9:00 PM	H. Betz	The glycine receptor/channel
9:40 PM	F.A. Stephenson	The GABA receptor/channel

Thursday, August 7, 1986

Morning Channels and Transduction Mechanisms.

J. Lisman -- Discussion Leader

9:00 AM	J. Brown	Phosphoinositides in photoreceptors
9:35 AM	K.-W. Yau	Role of cyclic GMP in visual transduction in vertebrate photoreceptors
10:10 AM	J. Lisman	Light-dependent channels in invertebrates
10:45 AM	Coffee	
11:00 AM	B. Suarez-Isla	Sarcoplasmic reticulum calcium channels
11:35 AM	R. Coronado	Calcium-release channel of sarcoplasmic reticulum

Evening Plenary Lecture

I. Levitan -- Discussion Leader

8:00 PM	P. Adams	Chic and vulgarity in biophysics: Ion channels and vertebrate neurons
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Friday, August 8, 1986

Morning Channel Modulation II

I. Levitan -- Discussion Leader

9:00 AM	H. Reuter	Modulation of calcium channel gating
9:40 AM	K. Dunlap	Regulation of neuronal calcium channels
10:20 AM	Coffee	
10:40 AM	P. Kostyuk	Calcium current modulation
11:20 AM	D. Armstrong	Enzymatic mechanism of calcium channel inactivation

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